Are You Staging Corn Correctly?

When applying post-emergent herbicides, proper corn growth staging is extremely important. Herbicide labels may refer to plant height, crop growth stage, or both when listing crop stage timing. Farmers and agronomists need to accurately stage corn plants to ensure that herbicides are being applied at the correct stage. Some common methods of determining corn growth stage are listed below.
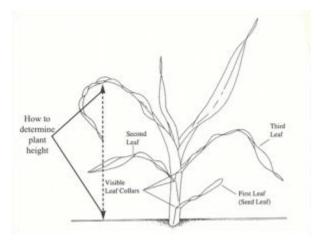

Figure 1: Corn Plant Staging

Corn Height Method - Measure from the soil surface to the highest point of the arch of the uppermost leaf whose tip is pointing down. Don't measure to the "highest point" on the plant, which is often the tip of the next emerging leaf above. Refer to Figure 1 on how to correctly determine the height of a corn plant. Corn height varies due to growing and crop management conditions, and is not the most accurate way to stage corn.

Leaf Over Method – Count the number of leaves, starting from the lowest (the coleoptile leaf with a rounded tip) to the last leaf that is arched over (tip pointing down). Younger leaves that are standing straight up are not counted. In Figure 1, the corn plant would be at the 4 leaf stage using the leaf over method.

Leaf Tip Method - Count all leaves, including any leaf tips that have emerged from the whorl at the top of the plant. In Figure 1, the corn plant would be at the 6 leaf stage using the leaf tip method.

Leaf Collar Method (V-stage) -   Count the number of leaves with visible collars, starting from the lowest (the coleoptile leaf with a rounded tip) and ending with the uppermost leaf with a visible leaf collar. This method is the most common staging system and involves dividing the plant development into vegetative (V) and reproductive (R) stages. The leaf collar method is generally also the easiest to use, and related better to the physiological stage of the plant and therefore to the effects of herbicides. In Figure 1, the corn plant would be at 3 leaf stage (V3) using the leaf collar method.